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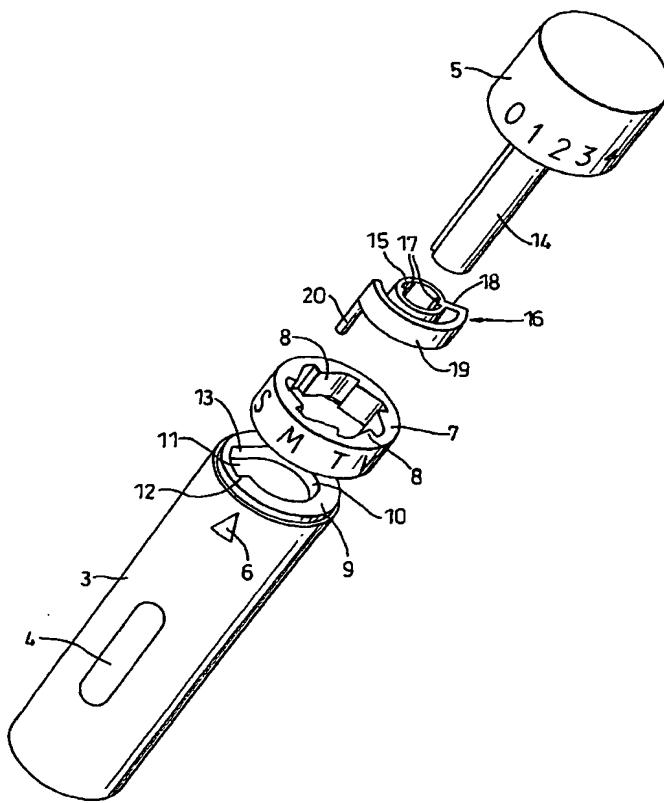
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[Continued on next page]

(54) Title: IMPROVEMENTS RELATING TO MEDICAL INJECTION DEVICES



(57) Abstract: In use a knob (5) is rotated from its zero position to set a dose. This rotates an indexer (16), which through its peg (20) turns a ring (7) by pushing on one of the teeth (8). A position is reached wherein the free end portion of the peg (20) meets a cam surface (13). On continued rotation of the knob (5), the peg (20) is forced radially inwards to clear the tooth (8) that it has just been pushing against. The ring (7), having been shifted through one-seventh of a complete revolution is then left stationary while the knob (5) is turned further to whatever dose is required. When a syringe actuation trigger (4) is pressed, the knob (5) winds back again to its zero position, taking with it the indexer (16). The peg (20) is still held clear of the ring (7) until it hits the sloping side of the tooth following the one which it had previously pushed. As the knob finally reverts to zero, the peg (20) slides along that slope and then snaps outwardly after passing the tip.



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

Int'l Application No
PCT/GB 03/00071A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61M5/315

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 554 996 A (BECTON DICKINSON CO) 11 August 1993 (1993-08-11) column 4, line 22 - column 5, line 9; figures 1-11 column 6, line 7 - column 7, line 3; claims 1-3 column 10, line 6 - line 20 -----	1-3
A	W0 96 26754 A (SAMS BERNARD) 6 September 1996 (1996-09-06) page 7, line 34 - page 9, line 35; figures 1-11 -----	4-6 1 2-6
X	EP 0 688 572 B (BECTON DICKINSON CO) 6 September 2000 (2000-09-06) paragraphs [0022] - [0025], [0028]; figures 1-7 -----	1 2-6
A		

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

10 June 2003

Date of mailing of the international search report

28.10.03

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 03/00071

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: 11-12 because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

Claims 11 and 12 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined.
The definitions of claims 11 and 12 make references to the drawings and are therefore so
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention-first mentioned in the claims; it is covered by claims Nos.:

1-6

Remark on Protest

The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 11-12

Claims 11 and 12 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined.

The definitions of claims 11 and 12 make references to the drawings and are therefore so unclear that no meaningful search could be carried out.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-6

The dependant claim 2 relates to a counter where setting the dose is by rotating a knob

2. claims: 7-10

The dependant claim 7 relates to a counter where setting the dose is by pulling back a plunger

INTERNATIONAL SEARCH REPORT

Int'l Application No
PCT/GB 03/00071

Patent document cited in search report	Publication date	Patent family member(s)			Publication date
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